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November 8th.

The President, Dr. Ruschenberger, in the Chair.

Twenty-two members present.

A paper was presented for publication entitled, "Bud Varieties," by Thomas Meehan.

Prof. Leidy directed attention to some remains of reptiles on the table, which were part of the collection of fossils recently sent to him from Wyoming by Prof. Hayden. They consist of the remains of three species of turtles and a lacertian, which were briefly characterized and named as follows:

Emys Jeanesi.—The species is founded upon a shell consisting of the nearly complete carapace and sternum, the former much crushed and distorted laterally. The carapace has been prominently convex, with the margins acute and without conspicuous indentations. The sternum is as well developed as in our common living emydes and of the same shape. The fore part of the sternum forms a semicircle slightly truncate; the back part is moderately notched, the notch being about half an inch in depth.

The intermediate vertebral scutes are longer than broad, and their anterior margin is transversely bow-like, with a deep median angle forward. The sides of the second vertebral scute, joining the first pair of costal scutes, are convex outwardly; joining the second of the latter, are convex inwardly.

The axillary and inguinal scutes are broader than long. The abdominal and femoral scutes are of nearly equal depth, about 2½ inches; the humeral are half an inch less; and the pectoral and caudal an inch less.

The sternum is a foot in length; its anterior portion is 3¼ inches deep and 5 inches wide; its posterior portion 3¾ inches deep and 5¼ inches wide.

The length of the carapace in the curve has been about fifteen inches; the width about nine and a half inches.

The species I have dedicated to my friend Joseph Jeanes, through whose aid we have been enabled to make many additions to the store of palæontological knowledge.

Emys Haydeni.—This species is founded upon an imperfect carapace of an animal probably about the size of the last, but which had not yet reached maturity. It may be distinguished from it by the form of the scute impressions. The intermediate vertebral scutes are longer than broad, as in the former. The anterior border of the second vertebral scute is straight, as are also the sides of junction with the first pair of costal scutes, the three lines together forming three sides of a square. The anterior border of the third vertebral scute is nearly straight; and that of the fourth is deeply bow-like and convex backward.

Notwithstanding I have already dedicated several extinct species of animals to my friend Prof. Hayden, I still add another to the list in commemoration of the very many discoveries he has made in vertebrate palæontology.

Baena arenosa.—The genus and species are founded on the greater part of the shell of a turtle, with the carapace broken away in front and fractured in other positions. The sternum, more perfect, has lost its fore extremity. The shell belonged to a mature animal, as indicated by the obliteration of the sutures of the plates composing the carapace. The surface of the latter, but more especially that of the sternum, presents a finely fretted appearance.

The carapace is moderately convex and bears a resemblance to that of our common Snapper (*Chelydra serpentina*). It is, however, not depressed along the middle, which is the most elevated portion of the fossil. The lateral marginal plates are comparatively large and broad, and are abruptly bent. The posterior portion of the carapace, both laterally and at the extremity, is notched much in the same manner as in the Snapper. The intermediate vertebral scute impressions have nearly the form and proportions as in the latter, but are not carinated in the median line, and the posterior line of the fourth vertebral scute impression is deeply and widely notched forward.

The sternum is very unlike that of the Snapper, and rather approaches that of the emydes in its form and proportions. The interspaces of the carapace and sternum are, however, intermediate in capacity to those in the former and latter. The sternal pedicels are deep and wide, and are impressed by a pair of large scutes, separating the large axillary and inguinal scute, as in the existing *Dermatemys*. The posterior extremity of the sternum in outline is half oval and feebly notched.

When complete the shell has measured between a foot and fourteen inches in length and about ten inches in breadth. The sternum has been about ten and a half inches long; its pedicels are 5¼ inches deep; and its posterior extremity is 3 inches long by 4¼ inches wide at base.

For the genus I have adopted a name which, according to Prof. Hayden, is used by one of the Indian tribes of the Upper Missouri as that of a turtle. The species I propose to name BAENA ARENOSA.

SANIWA ENSIDENS.—Among the fossils obtained in Prof. Hayden's expedition are the remains of a lacertian, labeled as having been discovered near "Granger." The bones consist of those of most parts of the skeleton, but are all in a fragmentary condition, and are imbedded in freshly broken pieces of an ash-colored rock. Before disturbance they appear to have been mostly entire and preserved nearly in conjunction. They are black, and their interior is occupied with crystalline calcite.

Fragments of bones exhibit well developed limbs, with long toes, strong ribs, and a long tail, altogether indicating a form like that of ordinary living lacertians. The long bones, even to those of the toes, are hollow. The vertebræ exhibit the ball and socket articulation of their bodies, but only a single pair of zygapophyses in front and behind. No zygantral and zygosphenal articulation appears to have existed.

The articular ball of the vertebral body is much wider than high, and is directed upward, with an inclination backward.

The body of several dorsals is quite straight inferiorly, fore and aft, and measures half an inch in length. The ball is four lines wide, and about half as thick. The breadth at the anterior zygapophyses is eight lines, and at the articulations for the ribs, just exterior to the latter, three-fourths of an inch.

An anterior caudal has its body the same length as in the preceding. Its ball is 3½ lines by 2½ thick. The width at the anterior zygapophyses is half an inch.

Hypapophyses for the articulation of chevrons are situated one-fourth the length of the body from the posterior extremity.

A tooth was found, after careful search, in proximity to what appear to be traces of the skull. It consisted of the crown, broken from its connection, the character of which therefore cannot be ascertained.

The crown of the tooth is compressed conical, slightly curved inwardly and backward, sharp-pointed, with abruptly impressed trenchant borders; is smooth and shining. It is hollow and has thick walls. The transverse section is rhomboidally oval, with acute poles. The length is about 1¼ lines; the breadth ¾ of a line; the thickness ½ a line.

The remains would indicate an animal as large as the largest of our living iguanians.

For the generic name of the animal I would propose to use the euphonious one of SANIWA, which, according to Prof. Hayden, is that used by one of the Indian tribes of the Upper Missouri for a rock lizard. The species may be named SANIWA ENSIDENS.

Issued November 29th, 1870.

Mr. Thomas Meehan referred to a potato presented to the Academy some months ago by Mr. Henszey, a member, which had the appearance of one potato growing out of the centre of another. The opinion of all who saw it was that it was really a case of this kind. It had been handed to him by the curators, and on dissection, though no exact place of origin could be traced, there seemed nothing to indicate any other theory of origin than that one potato had really grown out of the centre of the other.

But there were serious physiological reasons in the way of such a theory. A potato tuber is really but a thickened axis, in which the greater part of the interior structure would be incapable of developing a bud which would produce a tuber such as this one had done. The origin of a new tuber from an old one would be nearer the old ones surface. He had been looking for some further explanatory facts, and believed he had them here this evening, in the potato tubers he now handed to the members. They were about the size of hen eggs, and were pierced in every dircetion by stolons of the common couch grass, *Triticum repens*. They had gone completely through, as if they were so much wire, and in one instance two tubers had become strung together by the same stolon, as if they were two beads on a string. One would suppose that the apex of the stolon, when it came in contact with the hard surface of the tuber, would turn aside and rather follow the softer line of the earth ; but there was no appearance of any inclination to depart from their direct course. They had gone apparently straight through. He had no doubt the potato before referred to was a similar case, a potato stolon had penetrated another potato, and instead of going through as these grass spears had done, terminated in the centre, and formed the new potato there.

It was worthy of thought whether so much attention had been given to this direct force in plants as the subject deserved. It was well known that a mushroom would lift a paving stone many times it own weight, rather than turn over and grow sideways, which it would appear so much easier for it to do; and tree roots growing against walls would throw immensely strong ones over, though one would think the pressure against the softer soil would give room for their development, without the necessity of their expending so much force against the wall.

November 15*th.*

The President, Dr. Ruschenberger, in the Chair.

Twenty-seven members present.

A paper was presented for publication entitled " A Sketch of the Classification of the American Anserinæ," by B. H. Bannister.

Prof. Leidy directed attention to some fossil bones which had been submitted to his examination by Prof. J. D. Whitney. According to the accompanying label, they were found under Table Mountain, near Shaw Flat, Tuolumne Co., California.

The bones are friable, and have attached portions of a light ash colored gravel. Several masses of the latter substance, accompanying the bones, contain casts of some fruit.

The bones are as follow:

1. A metacarpal bone of a ruminant of large size. In form and construction it bears more resemblance to that of the Lama and Camel, than of other ruminants with which I have the means of comparing it. As in the Lama and Camel the lower articular extremities are divergent, and the articular surfaces are provided with a median ridge only at the back part. In ordinary ruminants, as in the Ox, Deer, Sheep, etc., the median ridge is produced the entire extent fore and aft of the articular surfaces. The peculiar arrangement